June 28, 1955 J. DUFFIE 2,711,909

SHEET HOLDER

Filed June 3, 1952

FIG. 3

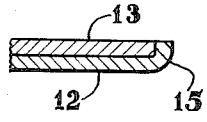


FIG. 4

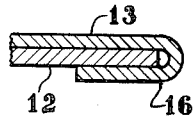


FIG. 8

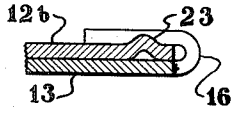


FIG. 6

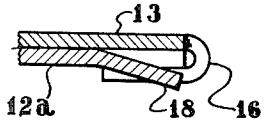


FIG. 1

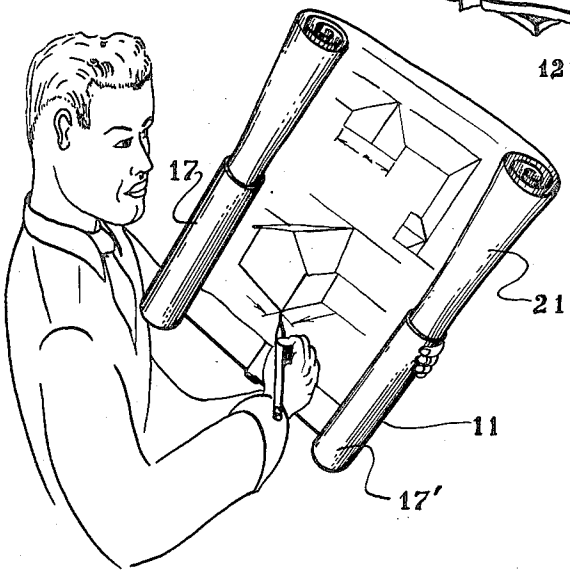


FIG. 7

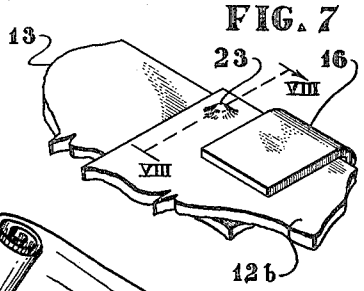


FIG. 5

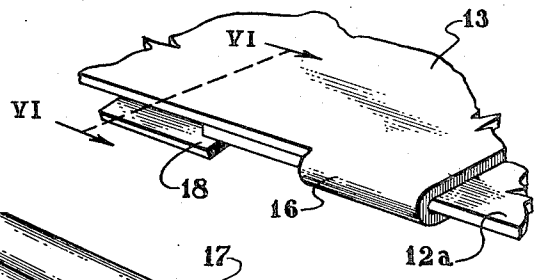
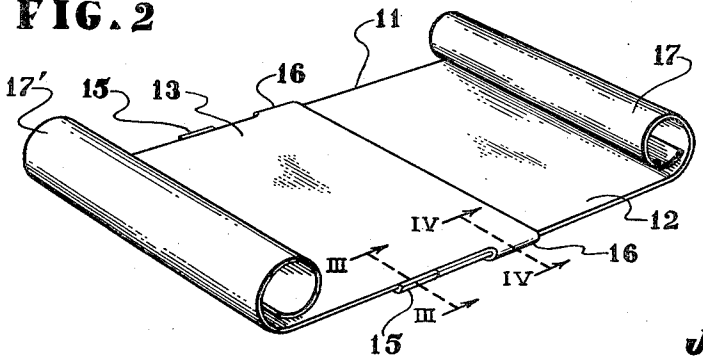


FIG. 2



INVENTOR.
JOHN DUFFIE
BY
George E. Pearson
ATTORNEY

United States Patent Office

2,711,909

Patented June 28, 1955

2,711,909

SHEET HOLDER

John Duffie, San Diego, Calif.

Application June 3, 1952, Serial No. 291,589

14 Claims. (Cl. 281—44)

(Granted under Title 35, U. S. Code (1952), sec. 266)

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

This invention relates to a new and improved sheet holder, and in more particular, a holder especially adapted for holding blueprints or other sheets having indicia thereon.

It is an object of this invention to provide a device for holding sheets of material having various lengths and/or widths.

It is a further object of the invention to provide a device whereby a sheet of material having indicia thereon may be held to expose a selected portion thereof in a position whereby it may be readily and easily viewed.

It is still another object of this invention to provide a device for holding a selected portion of a sheet of material in a flat extended position.

Another object of the invention is the provision of a simple and inexpensive sheet holder which may be adjusted to expose selected amounts of the sheet.

A further object is to provide a device for maintaining in position a selected portion of a sheet of normally rolled material having indicia thereon for as long a period as desired and whether the device is held in the hand or supported on the ground or by another object.

Additional objects and advantages of the invention will readily be apparent from a reading of the following description of a physical embodiment constructed in accordance with the invention, and reference to the accompanying drawings thereof, wherein:

Fig. 1 is a view in perspective illustrating an embodiment of the invention in one of its uses.

Fig. 2 is a further perspective view of the embodiment shown in Fig. 1.

Fig. 3 is a partial cross section taken along line III—III of Fig. 2.

Fig. 4 is a partial cross section taken along line IV—IV of Fig. 2.

Fig. 5 is a partial view in perspective of a modification of the slidable interlock feature of the invention.

Fig. 6 is a partial section view taken on line VI—VI of Fig. 5.

Fig. 7 is a partial view in perspective of another modification of the slidable interlock feature of the invention.

Fig. 8 is a partial section taken on line VIII—VIII of Fig. 7.

In the drawings, the numeral **11** generally designates the holder, which is used to conveniently hold a sheet of material in a selected position.

In order to provide selectivity in the size of sheet which may be held and in the amount of exposed area of the sheet, the holder in the illustrated embodiment of the invention is comprised of two plates **12** and **13**. The two plates **12** and **13** are each flat over a substantial portion of their area. Each of these plates **12** and **13** is of substantially the same width and the longitudinal sides thereof are made substantially parallel.

These plates are fitted together to form a flat convenient viewing and working surface having an adjustable effective area. This is accomplished by slidably interlocking the two plates **12** and **13** together as shown in Figs. 2–4. In these figures it will be seen that plate **12** has a pair of guide lugs **15**, one formed at, and extending from one end of, each of the parallel sides thereof. These lugs are bent upwardly to embrace and face adjacent to the sides of plate **13** which is slidably fitted therebetween. Similarly located at one end of the parallel sides of plate **13** are retaining lugs **16** which are bent into a J-shape to slidably enfold the sides of plate **12**. The pair of lugs **16** thus serves to hold the two plates **12**, **13** in close slidable relation to each other, and in conjunction with lugs **15** serves to guide the two plates in a telescopic manner whereby the effective flat working area of the plates may be varied as desired. In addition to their guiding and securing functions these lugs serve the valuable function of acting as stops to limit the plates in their outward movement to keep them from being inadvertently pulled apart.

It will be apparent that while the lugs **15** are shown as merely embracing the sides of the plate **13**, these lugs might be formed similarly to lugs **16** and thus embrace a portion of the working surface of this plate if so desired. However, while this gives additional strength and rigidity to the holder, the lugs as shown are much more desirable in that they do not encumber nor interfere with the working surface area, nor interfere with movement of the sheet across the working surface area.

The outer end of each of the plates **12** and **13** is formed into a volute or scrolled receiving portion **17**, **17'**. As is seen in Fig. 1, these volute portions serve to receive and hold the ends of the sheet material, such as a blueprint, in a facile and simple manner. This allows the two ends of the sheet to be rolled and placed into the volute receiving portions **17**, **17'** with the desired portion of the sheet exposed over the flat working surface between the two receiving portions. The sheet may then be fed from one volute portion to the other to place any desired portion in viewing and working position. In the event that a smaller or larger working and viewing area is desired, the two plates **12** and **13** are slid respectively toward or away from each other. As will be apparent, it is desirable to have a snug fit between the lugs **15**, **16** and the main body of the plates **13**, **12** which they embrace, so that the plates will tend to remain in the position in which they are set. If it is desired to have further working surface rigidity between the two plates, the lugs **16** may be made longer in the direction of the parallel sides of the plate, or additional lugs **16** may be spaced along the parallel sides of the plate **12**.

The present invention lends itself to a variety of uses, one of which will be seen from Fig. 1. In this figure a person is shown holding the holder **11** for purposes of viewing and placing markings on a selected part of a blueprint **21** which is held in and between the scrolled or volute portions **17**, **17'** of the holder **11**. The scrolled or volute receiving portions being open ended thus allow any width of blueprint or other sheet material to be held in the holder, as shown for example in Fig. 1. Here the blueprint **21** is of greater width than the width of the holder. As is seen, the worker has pushed the blueprint to one side of the holder whereby the desired part of the blueprint is supported by the susbtantially flat working and viewing surface. In this position the remainder of the blueprint extends over one side of the holder and out of one end of each of the scrolled or volute portions. If it is desired to enlarge or diminish the effective working surface, this may be accomplished by adjusting the two plates **12**, **13** relative to one another as described in the foregoing paragraph. If it is desired to view or work on an unexposed part of the blueprint, then the same may

be positioned between the two receiving portions **17, 17'** by rolling more of one end of the blueprint into its receiving portion and unrolling the other end of the blueprint from its receiving portion until the proper part of the blueprint is in view between the two volute receiving portions. This rolling and unrolling may be accomplished automatically by merely shifting the sheet in the desired direction such as applying hand pressure on the part of the sheet which is exposed on the working surface so as to slide the sheet along. The blueprint may then be shifted laterally, if necessary, to place the proper part over the working and supporting surface of the holder **11.** As will be apparent the blueprint will retain its position when held by a person or laid down on the ground or any other object or when otherwise unsupported by a person.

A modification of the slidable interlock fitting is shown in Figs. 5 and 6, wherein parts which occur unaltered from those appearing in Figs. 1–4 are indicated by like numerals. As will be seen from these figures, the plate **13** is unaltered from its previously described form. The plate **12***a* is scrolled (not shown) on its outer end similarly to the scrolled end of plate **12.** At its inner end in lieu of the pair of lugs **15**, there is formed a pair of releasable lock catches **18.** As is shown in Figs. 5 and 6, these catches may be formed by making a relatively short cut susbtantially normal to and near the unscrolled end of each of the parallel sides of plate **12***a* and crimping the resulting cleats downwardly to form effective catches **18.** As will be apparent from the following description of operation, the plate **12***a* should be made of a springy material, as for example, spring steel or plastic, to give a spring action to the catches **18.**

While the catches **18** serve no guiding function, they serve as releasable stops for limiting the relative outer movement of the plates **12***a* and **13** when the plates are extended, and permit the two plates **12***a* and **13** to be easily assembled and disassembled. Either assembly or disassembly may be accomplished quickly and easily by merely pressing the catches **18** upwardly into alignment with the main body portion of plate **12***a* and sliding the catches through the J-shaped lugs **16** in the desired direction for either assembly or disassembly.

As shown in Figs. 7 and 8, a further type of releasable lock means might be used in lieu of the releasable catches **18.** In this modification the plate **12***b* has detents **23** formed on its lower side as by striking it with a punch at each of the sides of its flat end. These detents are located as to coact with the J-shaped lugs **16** of plate **13** to effectively limit the outer relative movement of the two plates, or to allow the two plates to be pulled apart or assembled upon the application of sufficient force thereto in which latter event the lugs **16** would resiliently spring open slightly to allow the movement of the plate **12***a* including the detents **23** thereon to pass therethrough.

It will be readily apparent to one skilled in the art that the present invention may be made of any suitable material such as plastic, metal, fiber, etc., and may be formed in any suitable manner as by die cutting, casting, molding, machining, etc., as may be desired or convenient.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. It is therefore to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described.

Having described the invention, what is claimed is:

1. A sheet holder comprising two main body members, each of said body members being flat over a portion thereof, said body members being slidably fitted together by interlocking guide means, said interlocking guide means comprising a first pair of guides on one of said body members embracing the other said body member, and a second pair of guides on said other body member embracing and enfolding a portion of said one body member, whereby said body members may be slidably moved in relation to each other.

2. A sheet holder as defined in claim 1 wherein each of said body members has scrolled sheet-receiving portions in spaced relation to the slidably fitted portions of said body members.

3. A sheet holder, comprising a pair of members formed of sheet material, each of said members being substantially flat at one end and extending over a portion thereof and being formed into a receiving portion at the opposite end thereof, and means for slidably interlocking said members, said means comprising a first pair of guide lugs on one of said members embracing the sides of the other of said members, and a second pair of guide lugs on said other member embracing the sides of and enfolding a portion of the surface of said one member opposite to the surface of which a portion is exposed to the interior of said receiving portion.

4. The combination as defined in claim 3, wherein each of said members has parallel sides which are embraced by said guide lugs.

5. The combination as defined in claim 3, wherein said receiving portions are volute in cross section and open at each end.

6. The combination as defined in claim 3, wherein said members are in overlapping relation at the region of said slidable interlocking, and wherein said first pair of guide lugs embraces only the sides of said other member, thereby leaving unencumbered the surface of which a portion is exposed to the interior of said receiving portion.

7. A sheet holder comprising a pair of flat plates of substantially uniform width, said plates being mounted in contiguous overlapping relation with respect to each other at their inner ends, volute portions formed on the outer end of each of said plates and consisting of at least one substantially complete spiral, retaining lugs integrally formed on at least one of said plates adjacent the inner end thereof, said lugs extending over the opposite side edges and under the other of said plates to retain said plates in slidable relation for longitudinal movement with respect to each other, and stop means formed on said other of the plates and adapted to engage a portion of said one of the plates to prevent accidental separation and limit movement of said plates with respect to each other.

8. A sheet holder as set forth in claim 7 wherein said stop means is resilient and consists of a portion struck out of said other of the plates adjacent the inner end thereof and bent away from said one of the plates in a position to engage said lug on said one of the plates to serve as a releasable stop member and to permit said plates to be separated when desired by bending said struck out portion back to the initial position thereof.

9. A sheet holder as set forth in claim 7 wherein said stop member consists of an exdented detent integrally formed in said other of the plates adjacent the inner end thereof and positioned to resiliently engage said lug on said first plate.

10. A sheet holder as set forth in claim 7 wherein said stop means consists of lugs integrally formed on said other of the plates adjacent the inner end thereof, said lugs extending along the side edges of said one of the plates and terminating flush with the upper surface thereof.

11. A sheet holder consisting of a pair of flat plates of substantially uniform width, said plates being mounted in contiguous overlapping relation with respect to each other at their inner ends, upwardly extending volute portions formed on the outer end of each of said sheets and consisting of at least one substantially complete 360° portion of a spiral, retaining lugs integrally formed on opposite sides of one of said plates adjacent the inner end thereof, said lugs extending over the opposite side edges and under the other of said plates to retain said plates

in slidable relation for longitudinal movement with respect to each other, and resilient stop means formed adjacent the inner end of said other of the plates, said stop means being positioned and adapted to engage said lugs on said one of the plates to prevent accidental separation and limit movement of said plates with respect to each other.

12. A sheet holder as set forth in claim 11 wherein said resilient stop means consists of a portion struck out of said other of the plates adjacent the inner end thereof and bent away from said one of the plates in a position to engage said lug on said one of the plates to serve as a releasable stop member and to permit said plates to be separated when desired.

13. A sheet holder as set forth in claim 11 wherein said resilient stop member consists of an extended detent integrally formed in said other of the plates adjacent the inner end thereof and positioned to engage said lug on said one of the plates.

14. A sheet holder as set forth in claim 11 wherein

said stop means consists of lugs integrally formed on said other of the plates adjacent the inner end thereof, said lugs extending along the side edges of said one of the plates and terminating flush with the upper surface thereof.

References Cited in the file of this patent

UNITED STATES PATENTS

760,299	Belding	May 17, 1904
893,659	Satterlee	July 21, 1908
2,026,796	Payne	Jan. 7, 1936
2,173,188	Van Dersal	Sept. 19, 1939
2,174,660	Hirsch	Oct. 13, 1939
2,250,263	Horwitt	July 22, 1941
2,414,183	Wolf	Jan. 14, 1947
2,428,519	Gustafson	Oct. 7, 1947
2,494,129	Holton	Jan. 10, 1950
2,538,783	Holway	Jan. 23, 1951
2,630,641	Hessdoerfer	Mar. 10, 1953